ORAL CONTRIBUTIONS

806 Outcomes With Coronary Stenting

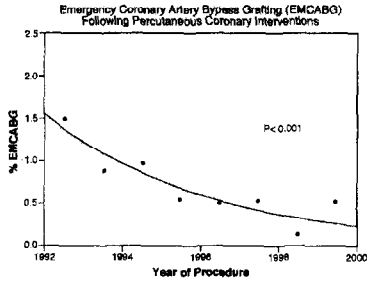
Monday, March 18, 2002, 9:15 a.m.-10:30 a.m.
Georgia World Congress Center, Room 257W

9:15 a.m.

806-1 Emergency Coronary Artery Bypass Grafting Following Percutaneous Coronary Interventions in the Stent Era

Niranjan Seshadri, Naveen Acharya, Penny Houghtaling, Eugene Blackstone, Stephen G. Ellis, Patrick L. Whitlow, *Cleveland Clinic Foundation, Cleveland, Ohio.*

Background: Since the advent of percutaneous coronary interventions, technological advances, adjunctive pharmacology and increased operator experience have resulted in lower complication rates. We sought to determine the prevalence of and indications for emergency coronary artery bypass grafting (EMCABG) following percutaneous interventions (PCI) at our institution.
Methods: A review of all PCIs performed between 1992 to 2000. Data was entered prospectively in a computerized database at the time of PCI and updated at hospital discharge.
Results: A total of 18, 561 PCI procedures were performed during the study period. There was a need for EMCABG in 113 (0.61%) cases overall. There was a decrease in the occurence of EMCABG over time from 1992-2000 (p<0.001) (Figure).



Stents and glycoprotein IIb/IIIa inhibitors were used in 6/<1% (1992-1994), 31/12% (1995), 59/33% (1996-1997) and 78/72% (1998-2000) of all PCIs respectively. The predominant indications for EMCABG were extensive dissection (56% in 1992-96 vs 41% in 1997-00) and perforation (19% in 1992-96 vs 24% in 1997-00).
Summary:
There has been a significant decrease in the prevalence of EMCABG following PCIs over the last decade and EMCABG is extremely uncommon in the new millenium.

9:30 a.m.

806-2 Outcome of PTCA and Stenting in Diabetic and Nondiabetic Patients: A Report From the Total Occlusion Study of Canada (TOSCA) Investigators

Vladimir Dzavik, Kok Meng Yee, Todd Anderson, Eric A. Cohen, John Mancini, Diane Catellier, Gerald Barbeau, John Ducas, Charles Lazzam, Jeffrey R. Burton, Peter B. Berger, Christopher E. Buller, *Toronto General Hospital, University Health Network, Toronto, Ontario, Canada.*

BACKGROUND: Prior studies have suggested worse outcome after percutaneous coronary intervention in diabetic patients with CAD compared to those without diabetes. However, outcome after stenting of non-acute coronary occlusions in those with diabetes is unknown. The main aim of this analysis was to compare angiographic and clinical outcome in diabetic and non-diabetic patients randomized to PTCA alone or stenting in the TOSCA Trial, a multicenter randomized trial of stenting with a heparin-coated Palmaz-Shatz stent vs. angioplasty alone in patients with non-acute coronary occlusions (TIMI 0 and 1)
METHODS: Baseline and follow-up QCA parameters and 1-year clinical outcomes for PTCA and Stent groups were compared for diabetic and non-diabetic patients. Student t-test, Chi-square and Kaplan-Meier analyses were used.
Results:
CONCLUSIONS: Stenting after PTCA of non-acute coronary occlusions results in superior net gain and appears to result in similar magnitude of angiographic improvement and reduction in TVR in diabetic and non-diabetic patients. The increased need for repeat revascularization in diabetic patients is a reflection of an increase in revascularization of non-target vessels.

Outcome in diabetics and non-diabetics randomized to stent or PTCA

Variable	Diabetes			No Diabetes		
	PTCA n=38	Stent n=30	p value	PTCA n=170	Stent n=172	p value
Acute gain in mm	1.8±0.4	2.4±0.8	<0.0001	1.9±0.5	2.4±0.6	<0.0001
Net gain in mm.	1.1±0.7	1.5±0.7	0.015	1.2±0.7	1.4±0.7	0.005
Failure of sustained patency in %	18.4	3.7	0.076	19.6	12.1	0.071
TVR	31.6	20.0	0.261	30.0	21.5	0.023
Any revascularization	42.1	36.7	0.804	38.8	28.5	0.052

9:45 a.m.

806-3 Three-Year Follow-Up Results of Argentine Randomized Study Coronary Angioplasty With Stenting Versus Bypass Surgery in Patients With Multiple Vessel Disease (ERACI II)

Alfredo E. Rodriguez, Máximo Rodriguez Alemparte, Julio Baldi, José Navia, Jorge Martinez, Daniel Vogel, Alejandro Delacasa, Victor Bernardi, Carlos Fernández Pereira, Igor Palacios, William O´Neill, *Otamendi Hospital, Buenos Aires, Argentina, William Beaumont Hospital, Royal Oak, Michigan.*

Background: We previously presented the hospital and one year follow up results of the Argentine randomized trial percutaneous transluminal coronary revascularization (PTCR) with stenting versus coronary artery bypass graft surgery (CABG) in multivessel disease (ERACI II).**Objective:**The purpose of the present study was to report the 3 years follow up outcome of the ERACI II study. **Methods:** This trial included 450 patients (pts) with multivessel disease and clinical indication of myocardial revascularization (92% of unstable angina) randomized to stent (225) or CABG (225). The primary end point of the study was to compare freedom from major adverse events (MACE) as death, myocardial infarction (MI), stroke and repeat PTCR/CABG, between both revascularization procedures at 30 days, 1,3 and 5 years of follow up. **Results:** At 3 years of follow up there were no differences in freedom from MACE or from MI between both groups. Survival at the end of the follow up was still significantly better with stent technique compared to CABG (95% versus 90.2% respectively, p< 0.044) however this advantage was lower than we reported previously (p= 0.017 in favor to PTCR at one year). Freedom from repeat revascularization procedures were significantly better with surgery (94.7% versus 75%, p< 0.00001 respectively) and these differences increased during the entire follow up period (p< 0.001 in favor to CABG at one year).**Conclusion:**In this selected group of pts with multivessel disease, at 3 years of follow up, PTCR with stent implantation showed better survival than conventional bypass surgery. Repeat revascularization procedures were significantly higher in the PTCR group.

10:00 a.m.

806-4 Impact of Angiographic Restenosis Detected by Routine Angiographic Follow-Up at Six Months on Long-Term Mortality

Helmut Schuhlen, Adnan Kastrati, Jörg Hausleiter, Josef Dirschinger, Veronika Eimannsberger, Julinda Mehilli, Albert Schömig, *Deutsches Herzzentrum, Munich, Germany, 1. Med. Klinik rechts der Isar, Munich, Germany.*

Background. Angiographic routine follow-up at six months (FU angio) is the most sensitive tool to detect restenosis after coronary stent placement. The impact of angiographic restenosis identified by FU angio on long-term prognosis of patients has been questioned.
Methods. We analyzed all patients with FU angio after successful coronary stent placement from May 1992 throughout December 1996. At our institutions, all patients are routinely scheduled for FU angio at six months, and 1972 of 2409 patients consented to this procedure.
Results. Of 1972 patients with FU angio, 562 patients (28.5%) had angiographic restenosis (>50% diameter stenosis). During the 4-year follow-up, 8.8% of patients with restenosis died, compared to 6.0% of those without restenosis (p=.02). Patients with restenosis had several significant differences in clinical and angiographic characteristics; they were older, had more diabetes, had more complex and longer lesions in smaller vessels which required more stents. However, in a multivariate model including all these variables together with restenosis, only older age (adjusted risk, 2.78; 95% confidence interval, 2.05-3.77) and restenosis (1.46; 1.01-2.10) were identified as significant and independent risk factors for long-term mortality. Of all 562 patients with restenosis, 331 had a target vessel revascularization procedure (TVR) due to symptoms, stenosis severity or evidence of ischemia. Patients with TVR had a long-term mortality of 8.2%, compared to 9.7% in patients without TVR (p=.51).
Conclusions. Angiographic restenosis is independently and significantly associated with an increased long-term mortality, independent of other well-known risk factors for the development of restenosis.

10:15 a.m.

806-5 Increased CKMB Release Is a Trade-Off for Optimal Stent Implantation: An Intravascular Ultrasound Study

Ioannis Iakovou, R. Merhan, G. Mintz, G. Dangas, Y. Koboyashi, A. Abizaid, D. Ashby, T. Limpijankit, R. Narasimaiah, I. Hjazi, N. Kipshidze, A. L. Lansky, G. W. Stone, J. W. Moses, M. B. Leon, *Cardiovascular Research Foundation, Lenox Hill Heart & Vascular Institute, New York, New York.*

Introduction. Creatine kinase MB (CKMB) elevation after percutaneous coronary interventions (PCI) is associated with late mortality. We evaluated the impact of aggressive stent expansion on both CK-MB release and clinical outcome.
Methods. We identified 989 consecutive patients (1009 coronary lesions) who underwent intravascular ultrasound (IVUS)-guided stenting; restenotic and saphenous vein graft lesions were excluded. Patients were classified based on final stent cross-sectional area (CSA): Group I (stent CSA< 70% ref. lumen CSA, n=117 pts, n=126 lesions), Group II (stent CSA: 70-100% ref. lumen CSA, n=551 pts, n=562 lesions), and Group III (stent CSA> 100% ref. lumen CSA, n=321 pts, n=327 lesions). CK-MB values were measured by radioimmunoassay at baseline, 6 and 24 hours after PCI.
Results. Baseline patient characteristics and lesion morphology including arc of calcium (p=0.7) and diabetes (p=0.67) were similar among the groups. There was a stepwise